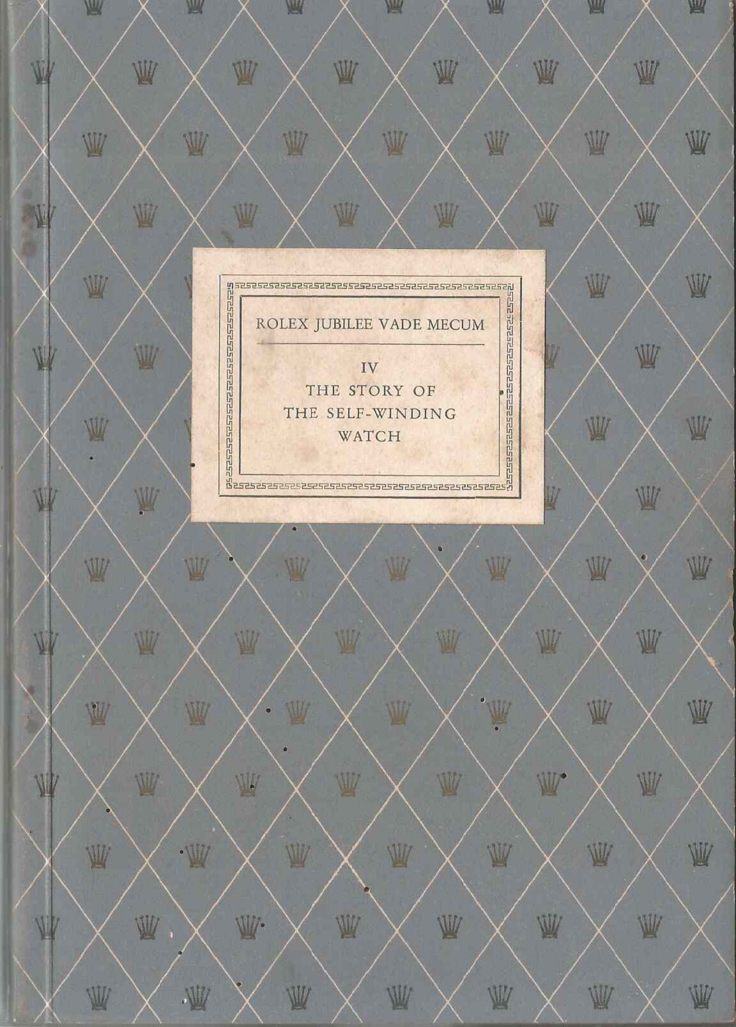

# ROLEX JUBILEE VADE MECUM

## IV
## THE STORY OF THE SELF-WINDING WATCH

ROLEX JUBILEE VADE MECUM

IV

# THE STORY OF THE SELF-WINDING WATCH

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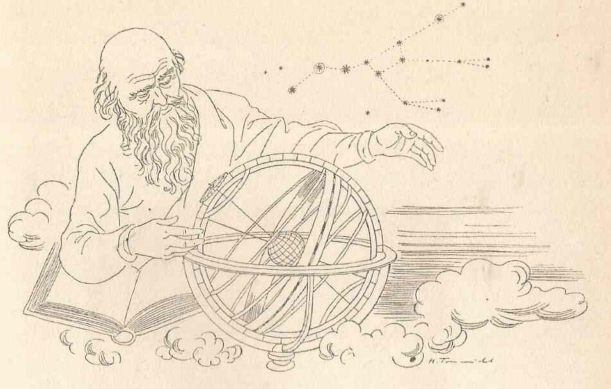


"Art is long and time is fleeting", said Longfellow, and his words are a most apt introduction to that fine masterpiece of modern skill: the "Rolex-Perpetual".

Its conception may appear very far removed from philosophic speculation, for it is a purely mechanical object which, under normal conditions, is capable of renewing its own motive force without direct human intervention.

"Tele", "auto" and the like, are terms which tend to appear more and more frequently in the vocabulary of modern man—fine sonorous words, reminiscent of an ancient civilization, their present application being far beyond the understanding of the men who first used them. We are turn-

ing more and more to the aid of automata, to robots, with the demand that they lighten our daily task and fulfil our wishes. So too, the perpetual watch, like some Genie of the Arabian Nights, answers its master's question and imperturbably marks the passage of time, without causing its wearer the trouble of removing it from his wrist, of winding or even of touching it in any way. Horologists first conceived the possibility of the self-winding watch in the second half of the XVIIIth century, a period when the science of mechanics appeared in the light of a beneficient deity able to regenerate humanity. The idea was also perhaps vaguely allied to the theory of the mechanical creation of life, or to that of the "perpetuum mobile" so dear to the heart of many idealists. To-day, however, the idea is no longer a dream, but has materialized in a tangible, practical form.

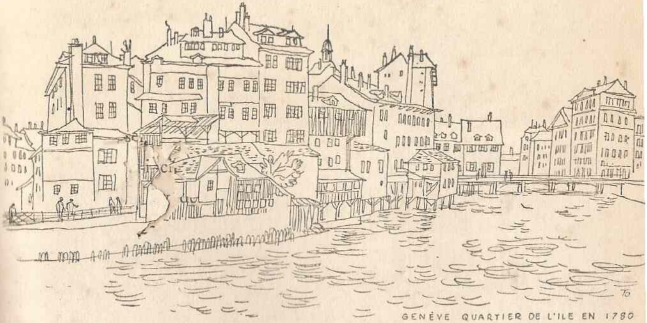
The first result obtained in this field of research was the watch called in France and Switzerland the "jerk-winding" watch (montre à secousses) and in England, the "pedometer type of self-winding watch". Needless to say, the term "pedometer" is wrongly applied here, because in point of fact, a pedometer is an instrument for measuring the number of steps taken while walking. However, this type of self-winding watch is based on the same principle as the pedometer, namely, on the impulse given by the jerking motion of a man's walk.

Who first conceived the "pedometer" watch? Two names are frequently cited by historians of horology: Abram-Louis Breguet (1747—1829) in Paris, and Louis Recordon (1778—1824) in London. Recent research, however, indicates that both these masters took advantage of and developed the invention of one Abram-Louis Perrelet of Le Locle in Switzerland.

In the course of his long and laborious life (1729—1826), Abram-Louis Perrelet the Elder, whom the engraving by A. Girardet has made familiar to us, may be considered as the master of all the horologists of his time at Le Locle. An insatiable seeker after knowledge and a great inventor, Perrelet spent his life in introducing new technical ideas in all fields of watchmaking, both as regards the watch itself and the machinery necessary for its manufacture. In a work entitled "Biographie Neuchâteloise" (1863) it is said of Perrelet: "It was he who invented the perpetual or pedometer type of self-winding watch, the mechanism of which winds itself up by the impulse given while it is being worn. The first watches of this kind made by Perrelet were bought by Breguet and by a certain Recordon who lived in London. These pocket watches were fairly practical, except for their size. He had also conceived a device whereby they could be wound with a key when not in use."

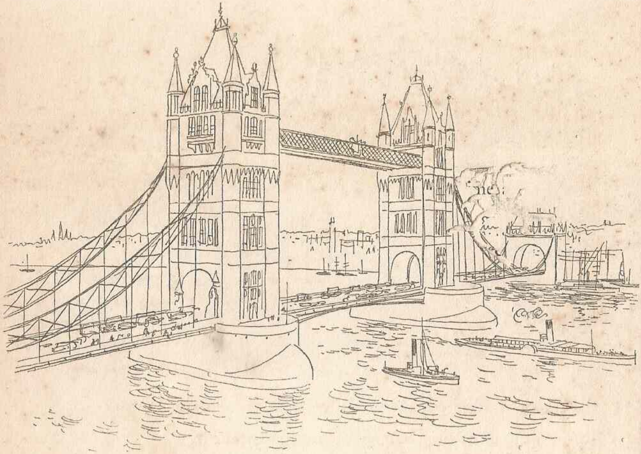
Abram-Louis Perrelet
1729-1826

Abram Louis Breguet
1747-1823



GENÈVE QUARTIER DE L'ILE EN 1780

The author of these lines based his statement on data furnished by Henri-Ernest Sandoz of Le Locle who had known Perrelet personally and was related to him. On the other hand, there is evidence that Breguet and Perrelet were acquainted. "He (Perrelet) had a wife so wicked that she became mad", writes Breguet in his correspondence. Perhaps it was the glibness of his spouse which first gave



this good watchmaker the idea of constructing a perpetual mechanism!

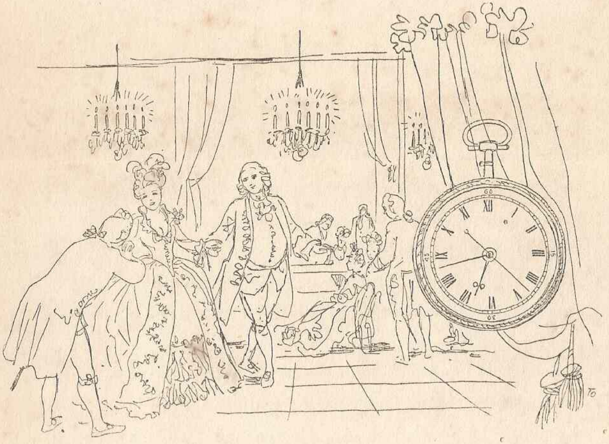
None of these self-winding watches made by Perrelet have come down to us, nor is it known at what date he made his first models. It must have been prior to the year 1780, nevertheless, according to certain facts we know.

For instance, at that date, Breguet was in Paris (according to very precise information given by his grandson) and it was then that he perfected the so-called "perpetual" watch. It may be that Breguet, a remarkable and untiring research worker, one of the most fertile inventors in the

history of watchmaking, designed and constructed other types of self-winding watches of this kind, but all on Perrelet's principle. However that may be, he certainly perfected many details of the system. In the work published in 1923 by David Salomons on the occasion of the Abram-Louis Breguet centenary, no less than eleven different perpetual watches made by this master are reproduced.

Meanwhile in London, Recordon (a native of Switzerland it would seem, for this family name frequently appears in the annals of watchmaking in Geneva and Ste-Croix throughout the XVIIIth century) was not content to follow the beaten track. In 1780, he applied for Letters Patent (No. 1249) covering a device for a perpetual watch. Little is known of this horologist, except that he succeeded Emery at Cockspur in 1806 and left London in 1814 for an unknown destination.

The self-winding watch was very popular at the end of the XVIIIth century and many firms—particularly those specialized in export to the Far East—manufactured this type of timepiece. For example, the business records (now in the Geneva Library) of Jaquet-Droz & Leschot—famous Neuchâtel horologists established in Geneva with



a branch in London—clearly indicate that the watches of this firm were made in Geneva, despite the fact that the pieces bear the place-name of London. The records also show that after 1792 the firm ceased manufacturing "perpetual" watches. The last of these are described in the following terms: "1 pair perpetual watches with moulded seconds and gold cases blue enamel and painted scene with gold key and sheath Lsterl. 49/10/-, 1 pair do, enamelled flower-work Arab (numerals) with key and sheath, Lsterl. 49/6."

These specimens had been made for the Chinese market and were despatched to the Far East.

In the Geneva Museum is a French watch of this kind, bearing the date "l'an VII" (1798—1799) which may well be one of the very last to be made in this period, for the popularity of the self-winding watch waned at the end of the century. This XVIIIth century vogue did not last more than about twenty years. Its decline must be attributed to the insufficiency of watch technique at the time, owing to which this novel timepiece was doomed to be short-lived.

In these early perpetual watches, the spring was wound indirectly by a mass or click which could move to and fro and was fitted to the extremity of a stem (reminiscent of a pendulum); this mass acted through the intermediary of an ingeniously constructed wheel-work.*

An examination of the Breguet watches shows that these pendulum-like clicks differed considerably in shape according to the intricacy of the movement. When Breguet started making much flatter watches, he placed this mass inside the plate, that is to say, within the framework of the watch; the plate therefore had to be cut to receive the mechanism. In some cases, the clicks are very complicated in shape. Breguet used the pedometer system of self-

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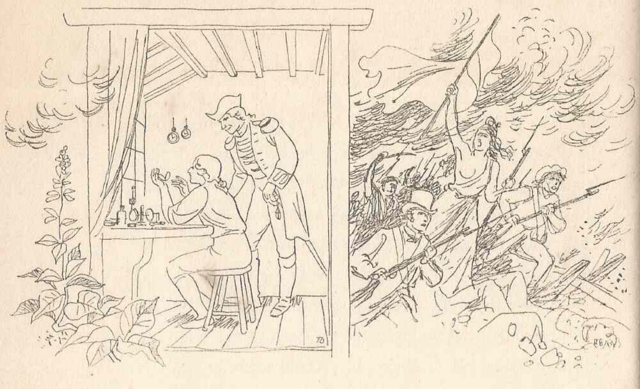
* A technical description will be found in the second part of this little book.



winding for his very best pieces. He even applied it to his "Marie-Antoinette" watch, rightly considered his masterpiece. This watch had been ordered in 1783 by an officer of the Royal Guard who demanded that all known intricacies of the horologist's art be included in this piece. No copper must be used and no limit as to time or price was imposed. The watch was begun in 1789 and finished in 1802; between these two dates, of course, the Revolution took place and interrupted the work. When the piece was finished (except for the outer, extremely luxurious case which was never completed) all the client's wishes had been fulfilled. The watch is a minute repeater (namely,

it strikes the minutes) a complete calendar watch, with time equation, thermometer, and so on (see fig. 5, p. 30). The self-winding watches of that period, when still in good condition, are usually provided with most luxurious cases. They show little signs of wear and often have been most carefully preserved by collectors in India and China especially, merely to be brought out and admired from time to time. In specimens not adorned with enamels, pearl or jewel ornament, and which have really been used, the movement is usually very much damaged. The only exceptions are some of the Breguet watches made with extreme care. The deterioration of the movement is due to the delicacy of the self-winding mechanism; the extremely fine teeth of the wheel-work wore down very quickly and the hairspring, opposite the mass, tended to break.

It must also be noted that these watches could only be wound by shaking, for no key could be used. A key was however employed for hand-setting which was operated directly at the hand square.

For all these reasons, the manufacture of this type of watch was soon abandoned.

Now, almost every idea in horology, even if its initial outcome belies expectations, is usually always taken up again later, when the reasons for its failure have been forgotten and new hopes are raised. The self-winding watch cropped up again therefore several times during the XIXth century, first in 1877, about one hundred years after its earliest apparition.

In that year, we find an English patent in the name of Edward Fletcher, which describes a somewhat different system of the pedometer type of self-winding. The English and American patents taken out by von Loehr in 1879 and by Brun in 1883 brought no new element to the solution of the problem.

In 1884, however, a watchmaker van der Heydt by name, of Chicago, did introduce an innovation. In 1889, a Swiss patent (No. 1914) was taken by a German firm but dropped in the following year. Three years later, in 1892, the Vuilleumier brothers at Renan near La Chaux-de-Fonds took out a patent (No. 5488) for a "perfected perpetual watch". This specimen is interesting, because apart from the mass it is provided with a winding stem. Nevertheless, the inventors met with but little success, for the patent was dropped in 1897.

Another watch of this type is worthy of notice, and we have reproduced it in the second part of this booklet. It is signed Henri Audemars, horologist and mechanic of Bévilard (Berne). After this, for more than 25 years, the self-winding watch fell into oblivion, except for a patent dated 1920 which was held only a very short time. The patent was, in effect, merely a counterfeit of earlier specimens.

The unexpected vogue of the wristlet watch once again drew the attention of specialists to the possibility of automatic winding on the pedometer system. This time, the problem appeared under a different light, because a far less delicate mechanism than those described above was required, and one which would also allow for a practical hand-setting system, an auxiliary winding mechanism and the means to prevent overtension of the main spring. The wrist watch is subject to considerable jerking which endangers the movement unless the latter is very strongly and carefully constructed.

The first system of self-winding which proved really interesting and could be applied to a wristlet watch was that devised by John Harwood and Harry Cutte in England. Harwood, a humble watchmaker by trade, had conceived his idea in the long hours of inactivity spent in the trenches during the first World War. The Swiss patent (No. 106 583) was deposited on October 16th 1923 and published on September 1st 1924. This invention is characterized by an oscillating mass having its staff in the centre of the plate, namely, of the movement; this has a brusque alternate movement checked by special springs called banking springs. Unfortunately, in this system, each shock tends to upset the adjustment; thus, none of the shortcomings of the early "pedometer" self-winding watches are eliminated. Nor did this watch provide for an independent, auxiliary system of winding; hand-setting could

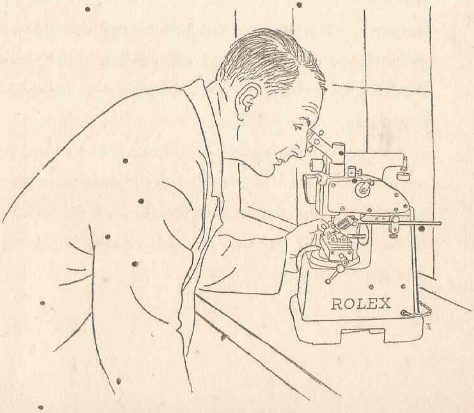
only be operated by a special device, the turning of the watch bezel. In addition, the workmanship and finish left much to be desired so that now, after having attracted attention for a few years, the Harwood watch is entirely forgotten.

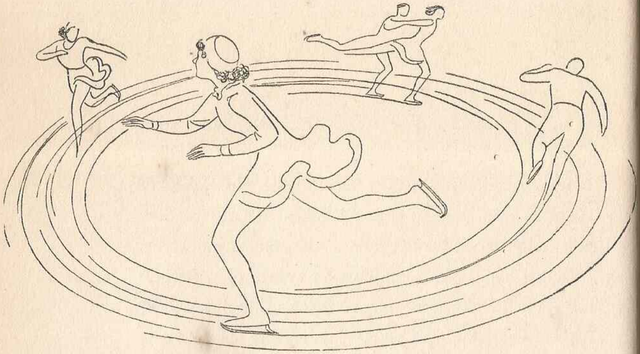
Nevertheless, the Harwood patent served as an incitement to inventors and in the following years a wealth of patents appeared, some very short-lived. One of them did arouse quite a general interest in France. This was the "Rolls" watch, launched by the Etablissements Léon Hatot S.A. of Paris and manufactured at La Chaux-de-Fonds, Switzerland. Here, the system of self-winding is entirely different: the whole movement moves in the case and, by displacement, retrieves the energy necessary to keep it going. The movement travels over a course of only 3 mm., but at the same time it draws the dial with it and this is most unpleasant to see. Moreover, the hand-setting system is clumsy and awkward. Consequently, the "Rolls" did not survive very long.

Another watch of the same type, the "Wig-Wag", although constructed on the same principle, was provided with a different mechanism; it had the advantage of allowing for winding as in an ordinary watch when, for some reason or other, it could not be worn. This watch was rather popular in Switzerland for some time.

Must one deduce from these very diverse applications of the same principle and their subsequent failure, that it is practically impossible to obtain a self-winding watch? On the other hand, can this pedometer system of self-winding really be put into practice for a utilitarian watch? An examination of the problem may cause one to doubt its solubility.

This then was the state of affairs when, in 1930, Mr. Wilsdorf and his technical collaborators at the Bienne factory thus formulated the essential factors of the problem to be solved: to find an automatic, absolutely silent,





self-winding mechanism, revolving both clockwise and anti-clockwise, the movement to be absolutely smooth and excluding the necessity of buffer springs.

The problem was, besides, complementary to that of the waterproof watch to which Mr. Wilsdorf had found the answer in 1927. It must also be admitted that the waterproof watch did lead to the self-winding watch, because the former provided a really ideal protection for this new mechanism.

It goes without saying that a prototype of this kind could only be established by work of the highest precision and care, first in the theoretical exposition of the difficulties to be faced, the calculations and, finally, in the actual creation of the model.

Rolex's technical staff faced and overcame each difficulty as it cropped up and the outcome of their work is the now famous Rolex "Perpetual" which must be considered a masterpiece of modern watchmaking and technical skill. A description of the "Perpetual" mechanism will be found at the end of this booklet. Not only technicians, but all who have some knowledge of watchmaking and mechanics will doubtless find it interesting to read. In the following lines, we shall merely give a very brief outline of its general principle which all our readers can understand.

In the Rolex "Perpetual", the winding mass or counterweight, called the "Rotor", is no longer a part moving to and fro against banking springs. It is a prime mover able to turn clockwise and anti-clockwise and pivoting freely on its staff in the centre of the movement. This mass is semi-circular in shape. Its equilibrium is unstable so that, according to the movement of the wrist, the force of gravity causes it to fall into a new position, in other words to move in one direction or the other, often turning completely round on its axis several times.

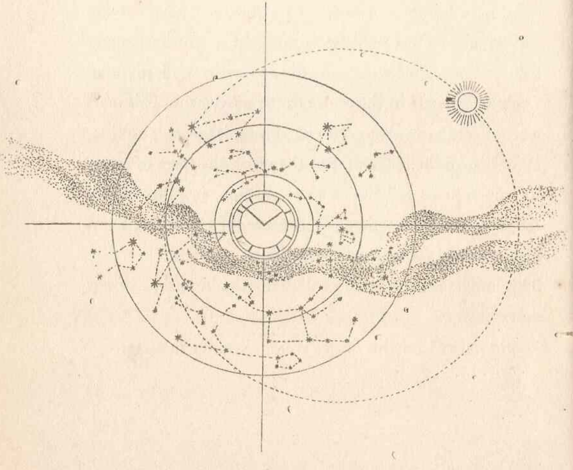
This mechanism is connected to the main spring of the movement.

World patents for this device were taken out in 1932.

In order to obtain a really automatic and practical watch, perfect harmony had to be achieved between all its component parts and this in turn could only be secured by the utilization of highly perfected and supersensitive precision instruments.

With the "Perpetual", Rolex's have found an ideal mechanism operating silently and smoothly in which—contrary to the earlier systems—no element exists which may impede the perfect operation of the watch's vital parts.

Nevertheless, notwithstanding its ingenuity, if this mechanism is to operate faultlessly, its workmanship must also be perfect. The Rolex "Perpetual" has been on the market thirteen years and has proved entirely satisfactory; its popularity has now become universal. It is a magnificient achievement and has opened up new horizons to the whole of the watchmaking world. With the great horologists of the past and the Rolex creations of the present to point the way, the watch of the future can surely be no other than the automatic, self-winding watch.



# TECHNICAL DESCRIPTION

The principle on which were constructed the XVIIIth century pedometer self-winding watches was always the same: a mass or click, thrust back into place by a spiral spring, is pivoted on one side of the plate. A ratchet wheel is connected to the staff of this mass; it is placed inside a small toothed ratchet drum. A clickwork device allows the drum to move in one direction only, namely, at the moment when the mass descends. This drum carries a pinion connected with a reducing gear and a large wheel fixed to the barrel arbor which winds up the spring.

To prevent overtension of the main spring, XVIIIth century horologists invented a device to stop the mass as soon as the spring is entirely wound.

Let us now examine a few of these old timepieces.

The oldest pedometer self winding movement now in the possession of the Geneva Museum bears the "Breguet, Paris" signature.

While most of these old automatic watches have a cylinder escapement, more often than not with a brass cylinder wheel, this movement is provided with a crown or vertical escapement. Now, as Breguet's first watches had this type of escapement, and as the perpetual watches date from the early days of his career, it is probable that this specimen was one of the first Breguet watches ever constructed.

In his work on Breguet, Sir David Salomons describes the perpetual watch in the following terms: "This watch is provided with two main-springs wound by the up-and-down movement of a platinum or gold and platinum weight which moves as the wearer of the watch walks; about one quarter of an hour's walk suffices to wind up the movement completely." The specimen we are describing here has two barrels, while all the other pieces illustrated have only one. In this Breguet piece, the mass is egg-shaped (fig. 1) and its height covers the whole diameter of the plate. There is no banking spring but, as the case of the watch is missing, it is impossible to tell whether or not a spring had been placed inside the case.

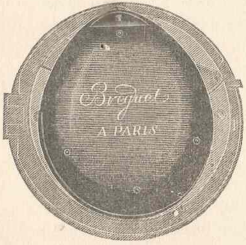


Fig. 1
Geneva Museum

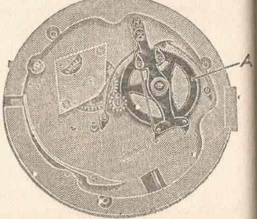


Fig. 2
Geneva Museum

The brass click is heavy, its lower portion being 5.7 mm thick. Breguet only later made his clicks of gold or platinum, metals having a greater density.

The stopping system adopted for this clickwork is the following: a kind of stop device carries a stud which rests on a pivoted detent and, by a lever arrangement, pushes out a strong pin which penetrates into a hole in the underside of the click.

The winding mechanism illustrated in fig. 2 also differs from the one described by Salomons. A large ratchet A, with extremely fine teeth, can turn in one direction only by a four-click device during the oscillation of the mass.

The Breguet perpetual watches reproduced in Salomons' work all have clickworks differing one from the other in shape and according to the intricacy of the movement. At one time, Breguet wished to construct much flatter watches and to this end placed the mass inside the plate which had to be cut to allow for this. In figures 3 and 4 two unfinished and unsigned movements are reproduced; they clearly illustrate how intricate these clicks were.

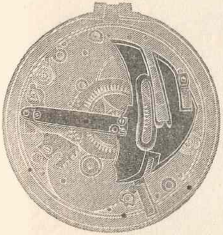


Fig. 3
Geneva Museum

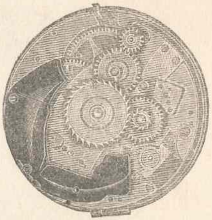


Fig. 4
Geneva Museum

Let us now turn to a few pieces by other horologists.

Figure *6* (page 31) and the watch illustrated on page 12 show a Jaquet-Droz specimen with centre seconds (from the H. Wilsdorf

Collection). It has a pillar movement with cylinder escapement and brass cylinder wheel. The oval shaped mass is of gold, pivoting in A. The barrel arbor is in B at the end of a small bar which rocks

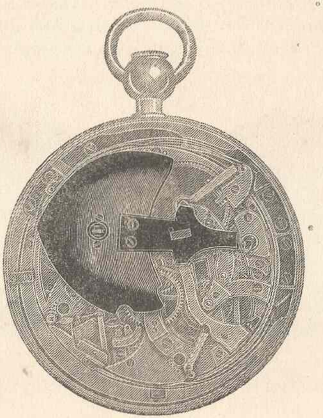


Fig. 5 The "Marie-Antoinette" watch described on page 13
David Salomons Collection

on pin C. This bar is raised by the part which is unscrewed as the arbor revolves, and a projection of the same bar in its turn raises the large spring D. Part E then thrusts against the extremity of this spring and the click is stopped. The movement of the mass is

broken by springs G and H. In this specimen, the bracket or cock is hidden by the clickwork.

This watch with gold case was made for sale in the Far East. The

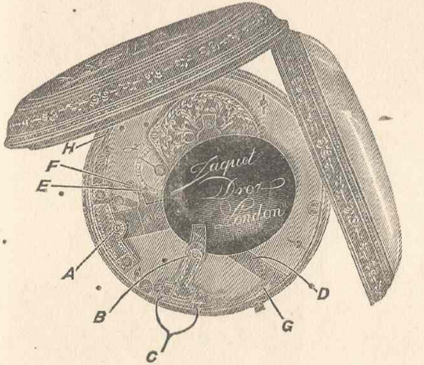


Fig. 6
H. Wilsdorf Collection

dial is sober and of good taste, the hands are delicately worked. The English watch illustrated in figures 7 and 8 is signed Jame (James) Cox & Son, a famous firm of London watch merchants with a branch office in Canton; the firm changed its name several times before it was finally liquidated. Jaquet Droz & Leschot were one of Cox's chief suppliers.

This specimen has a cylinder escapement with brass wheel; the

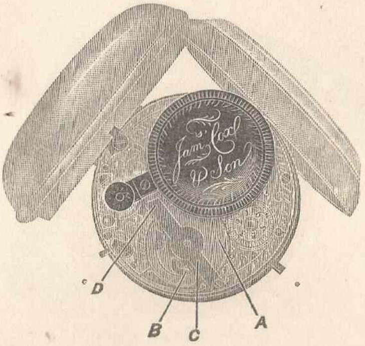


Fig. 7
H. Wilsdorf Collection

escape or balance wheel is placed under the dial. The mass, circular in shape, is also of brass. The stopping system for the mass can be seen more clearly in this piece. Barrel A carries a stopwork; the stop wheel is fitted with a projecting pin B. When the watch is com-

pletely wound, this pin passes under the thicker central portion of spring C, raises it and its end D bears on the click and stops it. The case is of gold. There is evidence to prove that this specimen

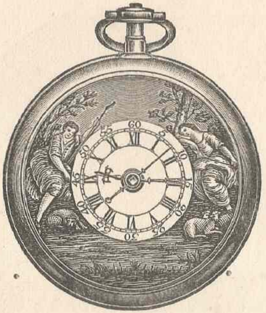


Fig. 8
H. Wilsdorf Collection

was made in England in 1783—1784. The dial is adorned with a pastoral scene. The seconds indicator is in the centre of the dial. The dial is painted. The hour and minute numerals are excentric. Here again we have a cylinder escapement with brass wheel; the balance is placed under the dial. The mass is circular and its stopwork identical to that described in the opening lines of this chapter. The dial is painted. The hour and minute numerals are excentric; the seconds indicator is at the centre of the dial, while the small

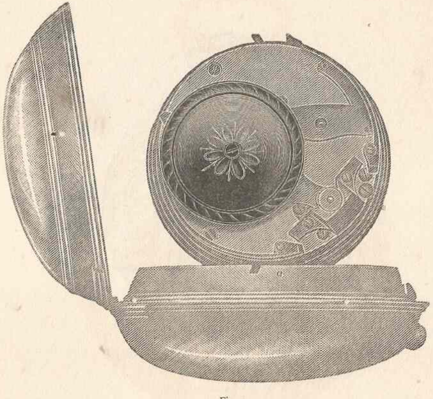


Fig. 9
H. Wilsdorf Collection

sector under the 60 numeral carries the regulator. The case of this watch is of silver.

The watch signed Cabrier, London, illustrated in figures 11 and 12, is also provided with a silver case. Members of the Cabrier family were known as horologists from the late XVIIth to early XIXth

centuries. The winding mass is carefully designed, almost concentric with the plate when its full course is run.

In order to avoid overtension of the spring, the mass is stopped by the following arrangement: the barrel arbor is threaded between

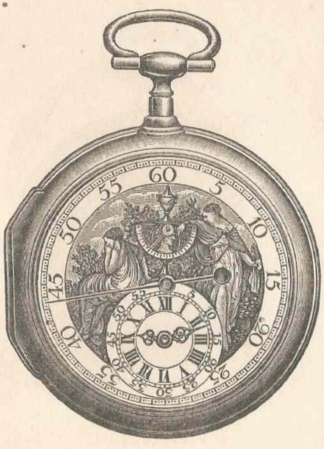


Fig. 10
H. Wilsdorf Collection

one of its pivots and the barrel shaft. A fly disc filed to a segment is screwed on to this thread. The barrel carries a stud which penetrates within the segment. When the watch is working, the barrel revolves and the stud pushes the disc down. On the other hand, when the watch is being wound, the fixed stud unscrews the disc which rises. As it rises, this same disc carries a pin C, raises a large spring R at the end of which is fixed a banking pin which stops the mass.

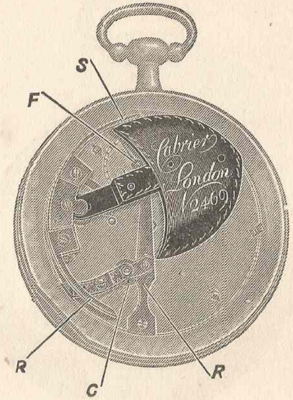


Fig. 11
Geneva Museum

In figure 12, the specimen is shown with the dial opened to reveal the movement and the mechanism just described is clearly visible. In A is the click-staff carrying a pinion engaging with wheel B. The latter in its turn carries a pinion engaging with wheel D adjusted squarely on to the barrel arbor. Here the balance can be seen in its place under the dial and the two wheels, one of which carries the regulator stem which allows for the correcting of deviations in timing. Wheel E is connected on the other side with

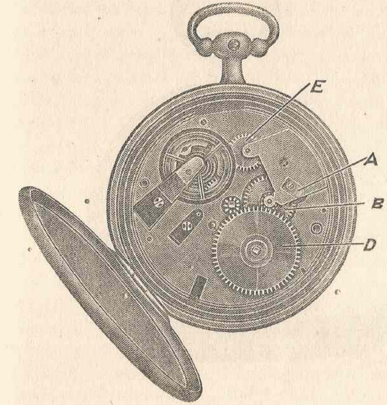


Fig. 12
Geneva Museum

the regulating square F. The shock-absorbing springs R and S can be seen clearly.

In figure 13 is illustrated a watch of the pedometer self-winding type, but with innovations. This specimen dates from the late

XIXth century and is signed Henri Audemars, a watchmaker and mechanic of Bévilard in the Swiss Jura district. The movement is provided with bridges and the barrel arbor square allows for the quick winding of the movement by means of a key. Hand-setting is also operated by means of the centre staff.

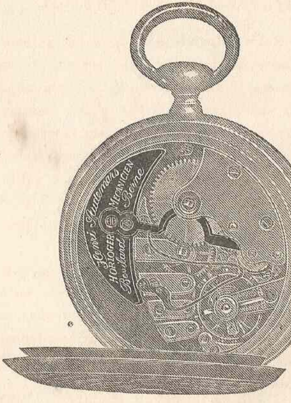


Fig. 13
Geneva Museum

It will be noticed that in this specimen the principle of the excentric mass has remained unchanged and that the power is transmitted to the ratchet as in earlier pieces.

## THE ROLEX "PERPETUAL"

To describe the Rolex self-winding device is not an easy task, if one wishes to make it clear and easy to understand. The mechanism is composed of several distinct parts which require description. The winding mass, to which the name of "Rotor" has been given, is no longer a part having an alternative movement stopped by banking springs; it is a prime mover revolving clockwise or anti-clockwise, having its axis of oscillation in the centre of the watch. It goes without saying that its poise is unstable, so that the force of gravity causes it to move into each new position. This element is semicircular in shape.

The rotor or oscillating mass is not fitted directly on to the movement as has been the case in all the specimens we have just examined. It is fixed on the outside of the self-winding mechanism carrier. This frame is provided with a circular foot resting on and fixed to one face of the plate. Inside the frame are lodged the elements of the self-winding mechanism.

Let us now examine how the winding impulse of the rotor is transmitted to the mainspring. Winding must be operated only when the mass revolves in one direction and, once the spring is completely wound, the effect of the oscillation of the rotor must cease.

The staff on which the rotor is screwed carries an idle wheel between the two plates of the frame. We would remind our readers that technically an "idle" mover is one which is not riveted or fixed on its axis; it can therefore revolve freely. This rather thick wheel is provided with double cogging. The first set of cogs, with the usual toothing on the rim, engages with another wheel driving the mainspring; this wheel is connected with a click and can therefore turn only in one direction. The second set of cogging is clutch-toothed, that is to say perpendicular to the first set of cogging, and similar to those usually employed for clickworks. This cogging therefore faces the second plate of the cap, towards the inner side,

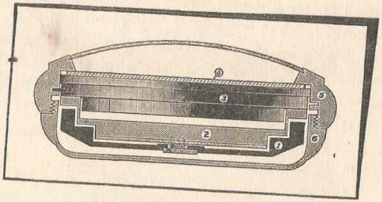


Fig. 14 Schematic illustration of the "Rotor" self-winding movement of the Rolex Perpetual.
1 Oscillating winding mass 2 Frame of the self-winding wheel-work
3 Watch movement 4 Dial 5 Case-band 6 Back of case

namely, on the side contrary to the revolving mass. On this side, the click-staff ends in a square, before the pivot. On this square is fixed a disc of the same diameter as the wheel and in which three elastic blades are cut, the free ends of which bend upwards and are in contact with the clutch teeth. These blades therefore act as clicks; however, the free ends of these blades are arranged in step formation, the distance between each being equivalent to one-third of the width of one tooth. In this way, when the extremity of one

blade reaches the end of one tooth, the second and third blades reach to one-third and two-thirds respectively of another tooth. When the rotor revolves clockwise, it drives the wheel through the intermediary of the clutch teeth and the blades; when revolving anti-clockwise, the wheel is immobilized by the retaining click. Thanks to the arrangement of the three blades, the oscillating mass

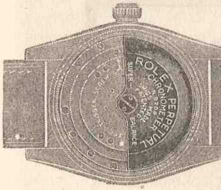


Fig. 15

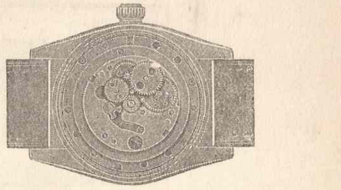


Fig. 16

need not turn through an angle corresponding to one tooth in order to wind the barrel; one-third of this angle is sufficient. Consequently, a mere quiver operates winding. On the other hand, another mechanism is required to prevent a continuance of the winding operation, once the mainspring is sufficiently tended.

Rolex has found a most ingenious system which it would be difficult to explain to any one not initiated into the mysteries of watchmaking. Let us therefore merely say that this device is directly connected with the mainspring. Not only does it prevent over-tension, but the spring is never fully wound, thus obviating the defect of banking of the escapement which causes the watch to gain time. It goes without saying that the good functioning of a device such as this requires perfect harmony between the different component parts, and that results of this kind can only be achieved by high precision instruments and very sensitive dynamometers.

With the mechanism we have just described, the automatic winding of the watch is operated by an oscillating mass. Means had also to be provided so that winding could be operated by the ordinary method should the watch not be worn for several days. This was finally obtained by a twin ratchet and twin idle-wheel mechanism placed on the barrel arbor.

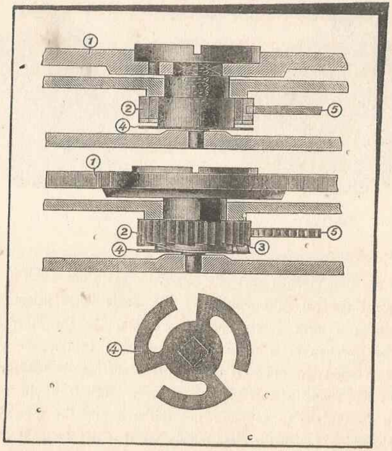


Fig. 17

1 Oscillating mass 2 Idle wheel 3 Clutch tooth cogging
4 Disc with three elastic blades 5 Wheel connected with barrel

Hand-setting is operated by the winding stem as usual.

With this watch, called the "Perpetual", Rolex's have perfected and realized an ideal mechanism which works silently and without unnecessary jerking which might damage certain parts of the movement and break pivots or jewels. Generally speaking, after 6 hours of wear the movement winds itself up completely, which means that it can run for 35 hours.

*1000 numbered copies*
*of the Rolex Vade Mecum have been printed.*

*No.* 217